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ABSTRACT

This seminar paper explores research bearing on the provision of early childhood education in Zimbabwe. Initially, unresolved problems in the developmental literature are pointed out to support the view that those concerned with intervention in the developmental process can only proceed heuristically by basing their action on theoretical considerations. Subsequently, the findings of studies investigating the effects of early educational interventions are cited. Results are taken as supporting the thesis that cultural influences are relative. Demographic characteristics of the citizens of Zimbabwe are provided as a basis for projections of the future educational needs of the Zimbabwian people. The influence of early learning programs in providing foundations for future development in a rapidly changing, technological context is discussed and the much stronger influence of parents on their child's development is pointed out. In conclusion, research needs are indicated. (Author/RH)

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INTEGRATED AND EARLY CHILDHOOD EDUCATION: PREPARATION FOR SOCIAL DEVELOPMENT

Theme A : Relevant Provision for Early Childhood

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1. Projects sponsored by the Bernard van Leer Foundation are generally concerned with the pre-school education of young children whose development is adversely affected by socio-economic or cultural circumstances. Their environmental deprivation can be defined as follows: "The outcome of anything in the cultural and socio-economic environment that detracts significantly from the child's opportunities to deploy its intellectual capacities to the fullest extent; to acquire the knowledge, skills and personality attributes for which it has the necessary potentialities; and to further its adjustment and contribution to a society which values human growth". Hard facts on the course of child development and how it can be influenced are still less plentiful than theories. Opinions remain divided on the relative importance of heredity and environment. The controversy is marked by accusations of bias, dishonesty and immoderate language more appropriate to the political hustings than to a scientific forum. One ventures into this jungle at ones peril. The significance of the now classical nature-nurture studies of Burks, Freeman; Holzinger and Mitchell; Leahy; Newman; Freeman and Holzinger; Skeels; and Skodak among others, are still being actively debated to-day, some fifty years after their first publication. (1)(2)

2. The I.Q,in terms of which all these studies have been conducted, is an unsuitable measure for their purpose, as it is an index, and not a behavioural variable. It is derived from tests which differ vastly in content, and measurement can also be markedly affected by educational, cultural and attitudinal factors. Jencks, the most objective analyst of the historical data, attributes 46.5% of individual I.Q. differences to heredity, 35% to environment, and 18.5% to covariance, but he warns that his heritability estimate "could easily be off by 10% either way, and it might be off by as much as 20% either way"(op.cit. p.71). All that one can say with confidence at this stage is that individual differences in intelligence are partly genetic in origin, but that the relative importance of nature and nurture cannot be precisely determined. On a purely common sense basis, one must concede that there is a genetic component. To take an extreme case, if Einstein and Menuhin had been exchanged at birth, would the former have become a world-renowned violinist, and the latter have produced the Relativity Theory? I doubt it!

3. A second unresolved problem is whether there are critical stages in child development at which receptivity to particular environmental influences is greatest. Here I am not referring to Piagettian Theory which has defined the stages through which development passes; but rather whether there are optimal periods for the imprinting of the basic schemata on which the effectiveness of later perceptual, psychomotor, verbal and numerical learning will depend. The relative potency of

influences exercised by family structure, material and cultural milieu, nutrition during pre- and post-natal periods, a host of child-rearing practices and inter-personal relations also remain to be determined. Development goes on from birth to maturity and beyond, and only longitudinal studies can therefore provide significant data.

4. One could attempt to determine the limits of modifiability of behaviour by manipulating one environmental factor at a time; but because of the multiplicity of influences and their unknown interaction effects, adequate controls are difficult to apply. For example, the potential effects of bilharzia on a child's mental alertness could be largely obscured, if that child at the same time suffered from severe malnutrition, a not uncommon combination. The decrement due to the latter might not be significantly aggravated by the further damage caused to the organism by the parasitic infection, because the effects are not cumulative. At this stage, therefore, we lack the information to apply a potency value to any of the factors involved in development.

5. Those concerned with intervention in the developmental process can only proceed heuristically, basing their actions on theoretical considerations which may or may not be ideologically inspired. The outcome of these actions cannot be known for many years, which is one reason, apart from difficulty and costs, why developmental follow-up studies are unpopular with research workers, because of publication time-lags. The rather scanty data that are available on follow-up studies are not encouraging.

6. The first major experiment in compensatory pre-school education was the introduction of the Head Start Program in the United States, and as the results may not be known to everyone, they will be briefly summarised. (3)

7. Head Start was part of a number of moves made by the U.S. Government to combat poverty. It started in 1965 with an 8 weeks summer programme, in which 561,000 children were enrolled and which cost 95 million dollar. A full-year programme was started in which by 1967, 215,000 children were enrolled at 12,000 centres, at a cost of 350 million dollars. At each centre, in addition to the educational mission, there were health, nutritional, parent-participation, social and psychological programmes. In an evaluation study conducted through the Westinghouse Learning Corporation, 1980 Head Start pupils drawn from 104 randomly selected centres were matched with 1983 controls. They were given cognitive and effective tests and environmental aspects that might have influenced their response to Head Start were also noted. Only for black children could a slight positive effect be noted. The full-year Head Start Program showed positive effects for children, both black and white, in the first and second grades, but there were too few in the third grade to warrant comparison. None of the gains were large enough to be significant educationally. There were a number of possible reasons for these disappointing results, which I do not have the time and space to discuss here; but the impermanence of IQ and grade gains from pre-school early learning ventures have been noted in other programmes as well.

8. Thus Holland, in the Rutland Street Project sponsored by the Bernard van Leer Foundation, found that in terms of achievement "the children did not fulfil their earlier promise" (4) Weikart and Schweinart, who carried out a follow-up study over a period of 18 years of 123 children who participated in the Ypsilanti Perry Pre-school Project in Michigan, U.S.A.(5) found that an I.Q. rise of an average of 12 I.Q. points above those of a control group, had vanished by the time the children had completed second grade. Their performance in reading, arithmetic and language achievement tests continued to be significantly better, however, though they did not obtain better grades than the controls. There were also some favourable

personality gains. A Carnegie Corporation review of the programme concluded that "pre-school education apparently gives youngsters a lasting advantage over their peers who get no special help when a program has a well-managed, high quality curriculum run by a dedicated staff" (6). Such follow-up data, though reassuring to those involved in the use of early learning procedures after the negative implications of the Head Start Program, do not throw much light on the efficacy of particular forms of intervention.

9. Campbell and Spear have stated that "early learning may have no essential lasting effects, but sensitize the organism to rapid relearning when similar conditions re-occur"(7) (8) Kagan et al. remark "It may also be that early learning is no less modifiable and no more fundamental than learning at any other time" (9). It is Jencks' view that "No study has yet suggested that pre-school programmes do more for disadvantaged than for advantaged children", which of course goes not say that early learning is not effective per se. Moreover, evaluation is generally conducted in terms of cognitive gains, whereas personality gains, a better adjustment to social requirements, may be the more notable result. It is in this respect that the environmentally disadvantaged may reap the greater benefits.

10. Decisions on the content and methodology of early learning exercises for disadvantaged children become considerably more difficult in cross-cultural contexts. That socio-economic disadvantagement - poverty, over-crowding, poor family environment can have adverse effects on intellectual and personality growth is reasonably obvious on common sense grounds. But when one is dealing with populations whose cultures are different from those prevalent in Western countries, or with culturally mixed populations, the possibility must be considered that socio-economic deprivation is compounded by cultural factors. Here facts to guide intervention decisions are even scarcer. Moreover, value judgments are bound to be involved in the assessment of disadvantagement.

11. On the most deep-seated cultural influence which may come about in very early infancy for the establishment of certain dispositions, Freeman D.G. has stated that there may be innate and stable dispositions, of genetic or pre-natal cause, which vary with ethnic identity (10) (quoted by Super, p.154). Super quotes Whiting as follows: "The physical environment and historical circumstances determine a society's maintenance systems, which include the social structure, economy and household type. These maintenance systems, in turn, influence the number and identity of caretakers, children's tasks, techniques of discipline etc., in short, the child's learning environment. This environment then interacts with the universal, innate nature of human growth and development to produce the personality and skills of the adult" (11) (quoted by Super,1975, p.148). Super also quotes Levine as saying that culturally encoded attitudes may contain, either consciously or unconsciously, information that increases the chances of survival of both the children and the culture(12).

12. A comprehensive study of some hundreds of traditional cultures by Barry et al. notes that those which practised agriculture or animal husbandry (high food accumulation) favoured personality qualities such as responsibility, compliance with prescription, docility. In those practising hunting, fishing, and food gathering (low food accumulation) more aggressive, independent, achieving behaviour patterns were predominant (13).

13. Thus institutions and customs relating to the upbringing of children, parental and other attitudes, can combine to favour the emergence of the personality type best adapted to the economic requirements of the culture. In Western Europe, Weber has postulated a similar dynamic relationship between a personality structure which favoured work as a way to grace and the economic needs of the post-Reformation society. Frugality and saving, rather than the enjoyment of

consumption, were the virtues that were thought to give some assurance that one might be one of those chosen for the eternal life. This favoured the operation of the capitalist system in its earlier developmental stages.(14)

14. All this supports of course the relativity of cultural influence. Values can only be judged in relation to specific cultural requirements. The major question is: What will survive? For what kind of society and social norms must the educational system prepare the child? I believe that it will have to be a technological society. We cannot hope to feed the world's rapidly expanding populations, and meet the expectations of a higher standard of living on the part of Third World countries, unless productivity is raised, both in the agricultural and in the industrial sectors of the economy. Some facts on the state of the Zimbabwean economy, illustrate this point.

15. Zimbabwe had a population of 7,523,000 in 1980. With a growth rate of 3,6%, it will be 10,715,000 in 1990 and 15,259,000 in 2000, if current trends remain the same. There are 1,3 million children under 5 years of age, and 45% of the population is estimated to be under 15 years. In 1980, the economically active numbered 2,448,000. This number will have increased in 1985 to 2,824,000 and in 1990 to 3,277,000. Assuming that between 1975-1985 employment in the wage sector will grow by 5%, and that a million people will move from rural to urban areas, 700,000 jobs will have to be created during this period. The carrying capacity of the tribal lands, which are 42% of the national total, is too low to accommodate 58% of the population. Moreover, 70% of the land is agriculturally marginal and suited only for low intensity livestock farming. The contribution of the tribal lands to the GPD is between 8% and 10%. Food production in the country was increasing only at the rate of 1% (15).

16. Whether the increased productivity that is needed should be achieved by a free-enterprise or by a centrally planned economy is irrelevant. Both kinds of economy will have to apply scientific and technical methods to the development of their resources. This goes for farming as much as for industry. Without knowledge about soil fertility, plant breeding, pest control, and the ability to use mechanical appliances and to maintain them, yields will remain low. There is no need to go for high technology and mass production. An intermediate technology, with a fair degree of labour intensity in the production process, will be more appropriate. This implies the fostering of certain cognitive skills and personality attributes that have been realised more fully in the technologically advanced countries than elsewhere. The most important of these are the following:

- ability to adjust to rapidity of change
- fullest possible development of intelligence
- knowledge to be insightful, not acquired by rote learning
- the acquisition of relevant skills, including problem solving and interpersonal skills
- the development of an adjustive personality structure, involving a desire for self-expression, achievement, autonomy, innovation, a great capacity for sustained effort, something akin to the Protestant Ethnic.

17. That the development of these qualities is not incompatible with the maintenance of indigenous customs, interpersonal relations patterns, beliefs and values, has been demonstrated in such countries as Japan, Taiwan, South Korea and India. The cultural features are, however, largely a matter of style. The customs and values that are maintained are those that do not militate against the achievement of productive efficiency, which demands individual responsibility, sustained effort, forward planning, a scientific mode of thinking, initiative and innovation. Opinions, may differ considerably on what is or is not detrimental. The Black

African attitude to the importance of time is a case in point. African culture holds that one should be its master, not its servant; time should be enjoyed, not chased. This attitude runs counter to the notion that time is money*; but it also saves one from the "rat race" and its consequences, though at a price in lower productivity. This also applies to a tendency to live in the present, rather than take action which will bear fruit in the distant future, or which will prevent a possible future disaster (ecological and energy problems are examples). Adherence to the cattle cult and the practice of communal grazing which is still prevalent in some areas, impairs food production, but abandonment of the practice seriously affects the maintenance of traditional kinship relationships.

18. The skills, personality attributes and values favoured by a technological society can obviously not be inculcated at the pre-school stage; but foundations can be laid for their future development. Early learning programmes can foster the development of intellectual curiosity; awareness of the diversity of the physical and social environment; stimulation of imaginative powers; the exercise of initiative in play activities, to name but a few of the relevant attributes.

19. Most important of all is that they should prepare the child to be able to live with rapidity of change. This is the most striking feature of Western 20th century culture. It is evident in what has happened for example in communication, both in travel and in the speed with which news can now be disseminated through the medium of the satellites. It can be on your video screen in your living room at the very moment it is happening in some distant part of the world. The consequence of the electronic revolution is even more far-reaching - right into space in fact - than the industrial revolution before it. Our world has become both much smaller, but also much larger, because we can know what is happening everywhere, and because of the interrelatedness of events. There is no indication that children cannot adjust to these physical aspects of change. It has become a natural and expected aspect of their world. But with it there come also devastating changes in values, in modes of behaviour, in an awareness of the purpose of life. This poses far more serious questions, for it threatens the individual's stability, as well as the social order. To build up a core of values that can sustain the individual in the midst of social and moral change, and that will provide some anchorage against the tide of hedonism and ultimate self destruction, is the educational challenge of the day.

20. An early learning centre has little chance of accomplishing this task by itself. The child learns holistically in one world, of which the school and the home are but different but interacting features. There is ample evidence that parent-child relationships exercise a powerful developmental influence. Early studies, those of Charlotte Bühler for example, demonstrated the depressing effect of institutional upbringing on children in comparison with those in foster homes. Leiderman et al. (quoted by Super, op.cit.) found in non-Western samples that high economic and social status of parents were associated with superior psychomotor and mental performance.(16)

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* Western man is always in a hurry, often in order to chase after material gain. He tends to lose sight of the purpose of life. Leopold Senghor, an exponent of the philosophy of "negritude", expressed this well when he wrote that the West is a "world that has died of machines and cannons". In New York he found "artificial hearts, paid for in hard cash", except in Harlem, where "God takes the life that goes back beyond memory spring up." He urged man "to be seized by the rhythm of things, not intent on conquest but playing the play of the world".

21. Kagan used a novel method to demonstrate the establishment of perceptual schemata in 3-4 month old infants by recording changes in heart rates in response to photographic, schematic or three dimensional presentation of faces, either normal or with features disarranged. Children of poorly educated parents showed little or no response to the various presentations of the stimulus series. The explanation would seem to be the more frequent face to face contact with their children on the part of the better educated parents. Empirical support was provided for this hypothesis by day-long observation of mothers and children in their homes. Kagan's studies also threw light on the role of parental interest in language development. Upper middle class mothers paid more attention to their infant daughters' vocalisations, responded with their own, and further reinforced their responses with tactile and visual stimulation. Their children's language development was more advanced as a result.

22. Also significant was the finding, in a number of large-scale studies involving thousands of cases that I.Q.'s of only or first born children tended to be higher than siblings lower down the birth rank order. The only feasible explanation is that the former enjoyed more parental attention and solicitude (17).

23. Important results were obtained by the National Child Development Study in the U.K. on the effect of a number of predominantly nurtural circumstances on early school attainment and adjustment to the school environment (18). In 1958, information on pre- and para-natal circumstances, socio-economic status or class and parent-centred home environment was gathered on all children born in the United Kingdom during the week from March 3 - 9. Some 17,000 births were involved, representing 98% of the total actually born. The original purposes of this study was to gather information on the causes of para-natal death.

24. In 1964, an opportunity arose to trace these children and to follow up their school performance when they were 7 yeards old. Approximately 16,000 were involved in this, a virtually fully representative sample of the survivors of the para-natal period. Their reading and arithmetic attainment was tested, as well as their psychomotor ability (copying designs test) and their general mental development (drawing a man test). Information was also gathered on medical and developmental history, family environment, parental attitudes, and relationships with the school, and behaviour and adjustment at school. The following were among the more important findings:

- Family size is an educationally significant factor. It affects reading age and to a lesser extent arithmetic attainment.
- Parental education has a considerable effect on reading attainment, and again less so on arithmetic attainment. It would appear that the well-established relationship between a number of family environmental circumstances and language development may account for this difference.
- By far the greatest differences in scholastic attainment were contributed by social class. Parental interest also differentiated significantly, but as there was a close association between parental interest and socio-economic status, the precise cause and effect of relacionships were difficult to disentangle. Father's social origins, when other factors are held constant, have no effect on attainment, whereas the mother's, though quite small in relation to the effect of the family's present social class, still remains detectable.
- Family size has a major influence on children's social adjustment at school; parental education rather less so. Once again social class is the most important determining factor.

- The effects of mothers working are not as large and consistent as might have been expected. Other things being equal, it is greater on reading attainment in the case of mothers who worked before the child went to school than for those who started working after the child started schooling. There was no effect of the mother working, after school had been started, upon arithmetic attainment. On social adjustment, only mothers working after schooling had been started had any significant effect.
- The survey found a significant relationship between birth order and reading attainment. The difference between first and fourth or later born is as much as 16 months of reading age and the additional effect of having two or more younger siblings is equivalent to a loss of nearly seven months of reading age. When the effect of other factors is allowed for, children who are born early or late (before 38 weeks or 43 weeks and over) are less well adjusted to the school environment than those born at the right time. Children with two or more younger siblings are also less well adjusted in school than those with none.

25. From the research data we have quoted, it is clear that the child's exposure to parental influence, for better or for worse, is more prolonged and intensive, than the influence exercised by attendance at an Early Learning Centre. Educational intervention has therefore inevitably been extended into the homes. In the case of the Chatsworth project for Indian children in South Africa, this is in fact its major feature.

26. The major problems one encounters here is to what extent the parents are susceptible to change, or what can be accomplished in over-crowded, totally inadequate home environments; or whether play sessions in a mobile centre can boost the home effort, as in the case of Chatsworth. In the Rutland Street Project, Holland found that the effects of the home programme had not been very significant. Linda Biersteker, in a family survey which analysed socio-economic characteristics, child rearing patterns and attitudes in Athlone, a Coloured community near Cape Town, found that in the lowest socio-economic section of this population, parental responsiveness to new ideas on the education of their children was very limited. She remarked that families in such adverse socio-economic circumstances will probably need very intensive intervention efforts to gain from any programmes. (19) This need becomes even greater with the much wider cultural gap, presented by the homes and family circumstances of blacks. One can agree with Biersteker's reference to Bronfenbrenner's statement on the need for "ecological intervention", i.e. to first "provide those conditions which are necessary for the family to function as a child rearing system. These include health care, nutrition, housing, employment, opportunity and status."

27. Such action is clearly beyond the practical scope of an early learning centre; but one should be aware of the impediments that face a widely based compensatory learning programme. Community and family surveys of the kind carried out at Athlone and St.Mary's (near Salisbury, Zimbabwe), will bring about such awareness. They are an essential basis for planning a programme to provide optimal returns subject to the environmental constraints imposed upon it. The search for techniques to stimulate and develop parental interest, and to change culturally disadvantageous circumstances must go on. Evaluation attempts are particularly important in respect of this mode of intervention. Research should be directed towards definition of the parameters and the construction of instruments for their measurement.

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